DISPOSABLE LITTER BOX

This application claims benefit of Provisional Application 60/442,076 filed January 24, 2003.

Field of the Invention

The invention is directed to a disposable litter box made from multi-section panels open from a flat configuration to an assembled disposable box.

BACKGROUND OF THE INVENTION

Cat owners need to provide a litter box for the cat. The litter needs to be changed on a regular basis and most cat owners do not enjoy this task. With the long standing domestication of cats, many types of litter boxes have been developed and used in the marketplace.

Litter boxes are often made of plastic and, to facilitate the cleaning of litter boxes, are used with liners to contain the cat litter. When the liner is removed, the litter is also removed. This procedure necessitates placing a liner in the litter box and filling the litter box with litter. Litter is dispensed and stored in large bags. This typical method is inconvenient and time consuming.

There is a need in the prior art for a single, self-contained unit supplying both the litter and the litter box. The self-contained unit must have the ability to be set up, used by the cat and easily disposed after use.

It is an object of the invention to provide a disposable litter box provided with litter.

It is another object of the invention to provide a litter box that is transported and sold in a flat configuration and converted into a setup, usable configuration.

It is another object of the invention to provide a disposable litter box made a biodegradable material.

These and other objects of the invention will become apparent to one of ordinary skill in the art after reading the disclosure of the invention.

SUMMARY OF THE INVENTION

A tray contains a bag of litter and provides four sides to form a litter box. An enclosure folds into a flat configuration against the top of the tray. In use, the panels of the enclosure unfold and form an enclosure for the tray. Closure panels fold upwardly from the tray and interlock with the unfolded panels to add stability. The closure panels are provided with openings to allow the ingress and egress of cats. When desired, the panels can be folded back into the flat configuration and the entire unit disposed of.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a top view of the blank used to make the tray;

FIGURE 2 is a top view of the blank used to make the enclosure;

FIGURES 3a-3f depict the transformation of the box from the flat to the assembled condition;

FIGURE 4 is a top view of the second embodiment of the blank used to make the tray; and

FIGURE 5 is a top view of the second embodiment of the blank used to make the closure.

DETAILED DESCRIPTION OF THE INVENTION

The tray forming part of the invention has a bottom wall **12** provided with a pair of slots **14** at each side, as seen in Figure 1. An outer wall **16** is foldably connected to the bottom wall **12** at one end and to a bridge panel **18** at its opposite end. Attached to the bridge panel **18** is inner side wall **20** having a pair of tabs **24** at its free edge.

End walls **32** extend from the remaining two edges of the bottom wall **12**. Each end wall **32** has a of corner flaps **34** extending from the side edges. Closure flaps **42** extend from each end wall **32** and have a pair of side flaps **46**. The top of the closure flap is slightly peaked in the middle and a pair of top flaps **48** extend from the top edge. Formed in the top edge of the closure flap **42** is a pair of tabs **50**.

To assemble the tray from the blank into the erected condition, end walls **32** are folded up with corner flaps folded perpendicular to the end walls and over the bottom wall **12**. After outer side walls **16** are folded up, the inner side walls are folded downwardly until tabs **24** engage slots **14**. When this is done, corner flaps **34** are captured between the inner and outer side wall. The two fold lines on either side of bridge panel **18** facilitate the folding of the inner side wall 180° from being coplanar with the outer side wall to the final orientation. Closure panels **42** are folded inwardly to form the top of the tray with side flaps **46** folded inwardly to align against inner side wall **20**.

The blank for making the enclosure is seen in Figure 2. The blank has a pair of bottom panels **62** each having a pair of bottom flaps **80** foldably extending from the side thereof. A base panel **64** with base flaps **84** extends from the side edge of each bottom panel. Foldably connected to the base panel **64** is side panel **66** bisected by fold line **68**. Forming the middle of the blank is top panel **70** bisected by fold line **72** and provided with notches **74** for reasons that will be explained later.

When the enclosure blank is formed together with the tray, the bottom panels **62** lie against bottom wall **12** with base panel **64** lying against inner side walls **20**. With bottom panel **62** perpendicular to base panel **64**, slot **86** in base flap **84** engages notch **82** in bottom flap **80** to lock two flaps together. Side panel **66** extends between the inner side wall **20** and side flaps **46**. Fold lines **68** allows the sidewalls to fold in an accordion-like manner and lie against the closure flaps **42**. When folded, the upper section of side panel rests upon the lower section. Extending across the folded side panels **66** and across the top of the tray is the top panel **70**. This folded, compact configuration is seen in Figure 3.

Transformation of the device from the flat configuration to the useable configuration is clearly shown in Figure 3. Figure 3A shows the enclosure transformed from the flat configuration to the fully formed configuration with the intermediate state shown in phantom. As can be seen, the side panel **66**, originally lying against the top **42** of the tray is unfolded until the two sections of the side panel **66** formed by the bisecting fold lines **68** are coplanar. The fold line **72** in the top **70** allows the formation of a peaked top.

Once the enclosure is fully formed, the two closure flaps of the tray can be raised. The first closure panel **42** is raised until tabs **50** engage the notches **42**, as seen in Figure 3b. The second closure flap **42** is pulled all the way through the enclosure in order to access the cat litter stored within the tray, depicted in Figure 3c-3e. The cat litter, usually packaged in a bag, is emptied into the tray. Thereafter, the closure flap is pushed upwardly until the tabs **50** engage notches **74**, as seen in Figure 3f. After use, the closure flaps **42** can be pushed inwardly until they again rest on top of the tray and the enclosure can be collapsed back into the flat configuration for disposal.

Figure 4 shows an alternative embodiment of the blank for making the tray. All similar parts have been identified with the same reference numerals and only that structure which differs from the first embodiment will be described. In this embodiment,

corner flaps **34** have been replaced with a corner fold **134** formed by two panels connected to one another and between the side and end walls. The free edge of the inner side wall **20** is provided with notches **124** as will be described hereinafter. Extending from the side edges of inner side wall **20** are wall flaps **122, 124**. Each of these is provided with slots **126**. The two wall flaps **122, 124** differ in their orientation of the slots **126** as, when assembled, slots **126** of the flap **122** face downwardly with slots **126** of flap **124** extending upwardly. The slots align with one another and allow the two flaps to interlock. Also differing from the first embodiment, one closure flap **42** is provided with a large opening **144** for cats with the second closure flap **142** provided with a smaller opening **146** for kittens.

Figure 5 shows the second embodiment of the blank for making the enclosure. In this embodiment, bottom panel **62** is provided with bottom flaps **180** having L-shaped cut **182**. Base panel **64** is provided with base flaps **184** with an L-shaped free edge **186**. When the enclosure is folded, bottom flap **80** is perpendicular to base flap **84** and the L-shaped free edge engages L-shaped notch **182** to interlock the two flaps. Between bottom panel **62** and base panel **64** are notches **188** which complement notches **124** to provide some degree of interlocking between the tray and enclosure blanks when folded.

The tray and enclosure are preferably made of degradable material such as cardboard. The blanks are provided with a coating, such as plastic or paraffin, to render the material waterproof.

While the invention has been described with reference to a preferred embodiment, variations and modifications would be apparent to one of ordinary skill in the art. The invention encompasses such variations and modifications.